70. (Twice amended) A vector construct comprising:

(a) a first promoter operably linked to a sequence encoding a positive selectable marker;

(b) a second promoter operably linked to a sequence encoding a negative selectable marker; and

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(c) an unpaired splice donor site,

wherein said splice donor site is 5′ to said negative selectable marker and when said vector construct is integrated into the genome of a eukaryotic host cell and the vector-encoded splice donor is spliced to a splice acceptor in an endogenous gene in said genome, then said positive selectable marker sequence is expressed in active form and said negative selectable marker sequence is not expressed.

C3

79. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of any one of claims 58, 65, 67, 70, or 71.

80. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of claim 72.

81. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of claim 73.

82. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of claim 74.

83. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of claim 75.

84. (Twice amended) A eukaryotic host cell *in vitro* comprising the vector of claim 78.

85. (Once amended) The eukaryotic host cell of claim 79, wherein said host cell is an isolated cell.

86. (Once amended) The eukaryotic host cell of any one of claims 80-85, wherein said host cell is an isolated cell.

87. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of any one of claims 58, 65, 67, 70, or 71.

88. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of claim 72.

89. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of claim 73.

90. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of claim 74.

91. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of claim 75.

92. (Twice amended) A library of eukaryotic cells *in vitro* comprising the vector of claim 78.

93. (Twice amended) A method for activation of an endogenous gene in a eukaryotic cell *in vitro* comprising:

(a) transfecting a eukaryotic cell *in vitro* with the vector of any one of claims 58, 65, 67, 70, or 71; and

(b) culturing said cell under conditions suitable for non-homologous integration of said vector into the genome of said cell, wherein said integration results in the activation of an endogenous gene in the genome of said cell.

C21 cont'd

94. (Twice amended) A method for obtaining cDNA from an endogenous gene comprising:

(a) transfecting a plurality of eukaryotic cells *in vitro* with the vector of any one of claims 58, 65, 67, 70, or 71;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of the cell;

(c) selecting for cells in which said vector has integrated into the genomes of said cells;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA; and

(f) isolating one or more cDNA molecules containing one or more nucleotide sequences from said vector.

Sub E1

96. (Twice amended) The method of claim 94, wherein said cDNA is sequenced and the nucleotide sequence of said cDNA is compared to nucleotide sequence in said vector.

C3

97. (Twice amended) The vector of claim 67, wherein said unpaired splice donor site is positioned upstream of said first selectable marker sequence and when said vector is integrated into the genome of a eukaryotic host cell resulting in splicing from said unpaired splice donor site to a genome-encoded splice acceptor site, then said first selectable marker sequence is not expressed.

98. (Twice amended) A method for isolating eukaryotic cells *in vitro* in which a single exon gene has been activated, comprising:

(a) transfecting a plurality of eukaryotic cells *in vitro* with the vector of claim 97;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genomes of said cells; and

(c) selecting for cells in which said first and second selectable marker sequences are expressed in their active forms.

100. (Twice amended) A method for isolating exon I of a gene comprising:

(a) transfecting one or more eukaryotic cells *in vitro* with the vector of any one of claims 58, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells;

(c) selecting for cells in which said vector has transcriptionally activated an endogenous gene containing one or more exons;

(d) isolating RNA from said selected cells;

C4

(e) producing cDNA from said isolated RNA;

(f) recovering a cDNA molecule containing vector sequence and exon sequence from said endogenous gene; and

(g) using the exon sequence in the endogenous gene in (f) to obtain a cellular transcript or cDNA of a cellular transcript that contains the endogenous gene exon sequence and exon I of the endogenous gene.

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Sub E1

102. (Twice amended) A method for producing a gene product encoded by genomic DNA comprising:

C5

(a) isolating genomic DNA, containing at least one gene, from a eukaryotic cell;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable eukaryotic host cell *in vitro*; and

(d) culturing said host cell under conditions suitable to result in transcription of one or more nucleic acid sequences in said vector contained in said vector-genomic DNA complex.

103. (Twice amended) A method for isolating a gene sequence comprising:

(a) isolating genomic DNA, containing at least one gene, from a eukaryotic cell;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable eukaryotic host cell *in vitro*;

(d) culturing said host cell under conditions suitable to result in transcription of one or more nucleic acid sequences in said vector contained in said vector-genomic DNA complex;

(e) isolating RNA produced by said transcription from said host cell;

(f) producing one or more cDNA molecules from said isolated RNA; and

(g) recovering one or more cDNA molecules containing vector sequences at the 5' ends of said cDNA molecules, thereby isolating said gene sequence.

117. (Once amended) The vector of claim 67, wherein said unpaired splice donor site is positioned within said first selectable marker sequence and when said vector is integrated into the genome of a eukaryotic host cell resulting in splicing from said unpaired splice donor site to a genome-encoded splice acceptor site, then said first selectable marker sequence is expressed in inactive form.

118. (Once amended) A vector construct comprising:

(a) a first promoter operably linked to a sequence encoding a positive selectable marker;

(b) a second promoter operably linked to a sequence encoding a negative selectable marker; and

(c) an unpaired splice donor site,

wherein said splice donor site is within said negative selectable marker and when said vector construct is integrated into the genome of a eukaryotic host cell and the vector-encoded splice donor is spliced to a splice acceptor in an endogenous gene in said genome, then said positive selectable marker sequence is expressed in active form and said negative selectable marker sequence is expressed in inactive form because of the splicing event.

Please add new claim 119.

119. A method for isolating exon I of a gene comprising:

(a) transfecting one or more eukaryotic cells *in vitro* with the vector of any one of claims 58, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells;

(c) selecting for cells in which said vector has transcriptionally activated an endogenous gene containing one or more exons;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA;

(f) recovering a cDNA molecule containing vector sequence and exon sequence from said endogenous gene; and

(g) using the exon sequence in the endogenous gene to obtain genomic DNA containing exon I of the endogenous gene.